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ABSTRACT

Issues pertaining to research on college reading and study skills programs are analyzed, based on a literature review. It is suggested that before educators can provide quality instruction, they need to differentiate practices that are conducive to learning. Evaluative criteria are needed to make such decisions, as well as to design and evaluate experimental investigations. Particularly important are the following: (1) sampling considerations, including a representative study population, randomization, analysis of covariance, and internal validity; (2) independent variables; (3) training in the teaching technique under analysis; (4) instruments that are adequately described and appropriate to the task; and (5) data analysis techniques that are appropriate for the experimental design. To bridge the gap between practice and theory, cooperative research ventures between instructors and researchers must be undertaken. It is suggested that college reading staff need to: understand the contributing role of research, develop the skills necessary for evaluating and conducting studies, and continue to seek the institutional support (release time, seed money, assistants) necessary for conducting applied research. (SW)

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Evaluative Criteria for College Reading-Study Research

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"Evaluative Criteria for College Reading-Study Research"

As a general rule, much of the instruction which occurs in applied learning settings tends to be based on either long-standing conventional wisdom or questionable research methodologies. By no means is the field of reading an exception to this rule. Harris (1976) states, for instance, that there is no agency which protects either the reading teacher or pupil from educational practices that are based on either poor research or unsubstantiated tradition. Nor is either group protected from so-called innovative practices which have gained undue wide acceptance through extensive media coverage, followed by a bandwagon effect. Certainly some reading research has had a positive impact on instructional practices in the classroom (Russell, 1961), but there also exists a body of published research that has had greater influence than it actually warrants (Singer, 1970). Does the research relating to college reading and study-skills programs fall in the former or latter category? For college reading and study-skills educators, the ability to differentiate those practices which are truly conducive to learning from those which are not is absolutely critical to providing quality instruction.

What Does the Literature Suggest?

Two thorough reviews of the college reading and study-skills literature (Sanders, Lowry, & Theimer, 1982; Stahl, 1983) indicate that despite major methodological and reporting flaws, research has indeed been translated into practice. In Stahl's

(1983) critical analysis of the research on textbook-study methods advocated in college reading programs, he concluded that virtually all of the identified investigations suffered from serious problems with experimental design, training procedures, measurement devices, and statistical procedures. The extent of these difficulties made it impossible to reach any firm conclusions about the relative effectiveness of textbook-study systems. On a larger scale, Sanders, Lowry, and Theimer (1982) presented a comprehensive analysis of the literature concerning the effectiveness of college reading and study-skills programs. In their meta-analysis of the relevant research from 1960 to 1977 (see Sanders, 1979, for the total study), they identified a total of 676 studies. Of these, only 66 reported data in quantifiable terms and only 28 of the studies were sufficiently controlled to warrant inclusion in the meta-analysis. Appropriately, these researchers conclude that serious deficiencies in reporting what actually transpired in college reading programs make it very difficult for practitioners, program developers, and investigators to know what variables contribute to reading growth.

As a result, it is imperative that the search continue for the variables that increase skills if systematic and general improvement in college reading-study instruction is to occur. For college reading-study personnel, this search should progress in two basic directions. First, they must become better acquainted with the relevant literature which may impact upon their practice. This endeavor translates into regularly surveying journal articles, dissertation abstracts, and new

texts, as well as attending professional meetings. Additionally, individuals who oversee college reading and study-skills programs must provide encouragement and material support for these activities if variables that contribute to program success are ever to be known. Second, college reading personnel must become researchers themselves. Reliance on past practices by virtue of tradition, popularity, or presumed data-driven support is tenuous at best. Furthermore, each instructional situation is somewhat unique unto itself. Consequently, discovering key variables related to the success of the immediate program becomes the responsibility of the individual administering that program.

Essential Criteria

Before reading personnel can accurately and adequately evaluate research studies for the purposes of determining variables of success or as a preliminary step in their own investigations, they must possess a set of accepted evaluative criteria or standards. Wallen (1974) points out that in reviewing and evaluating a research study an investigator should utilize the same standards that are important for designing one. Such a view is central to the point of this article. Several reputable sources on educational research (Best, 1977; Issac & Michael, 1976; Tuckman, 1972) and also on reading research (Clymer, 1969; Harris, 1976; Kingston & Weaver, 1967) advocate using similar criteria for designing and, hence, following Wallen's logic, for evaluating experimental investigations.

While it is recommended that college reading and study-skills personnel consult the above sources for an exhaustive list

of evaluative criteria, there are several criteria that are particularly important in analyzing research reports about college reading and study-skills programs. Special emphasis needs to be placed on these criteria since they appear to be overlooked regularly by those conducting research with college reading populations.

Sampling

Several points need to be considered to ensure that the sample is representative of the population. First, it is highly desirable for members of the sample to be randomly assigned to all treatment or control groups rather than assigned through matching students on one or more variables. When randomization is impossible, the appropriate statistical technique, the analysis of covariance (see Cox, 1958; Kirk, 1968) should be utilized to approach the effect of randomization. Related to this point is the controlling for particular factors which jeopardize internal validity (i.e., whether or not the treatments actually made a difference). The main threat to internal validity with groups that are not randomized arises from the possibility that some critical difference, not reflected in pre-testing, exists to contaminate posttest data. For example, if one treatment group is from an evening class, the students in that group may be older and perhaps more motivated than a morning class of 18-year-olds just out of high school.

Two sources of invalidity are of particular concern in reviewing studies on the success of college reading-study programs: statistical regression, the shift toward the mean on

repeated or correlated measures, and experimental mortality, the differential loss of participants from the comparison. Statistical regression to the mean is of concern because a great many of the students who enroll in college study-skills classes are perceived to be remedial students because of low high school G.P.A.'s or SAT scores, or are advised into such courses because of very low scores on entrance examinations. Therefore, it is highly probable that the mean score of those students who score exceptionally low will move toward the average of the total group whether or not a treatment is applied. Secondly, this population is more apt to drop out of college or have erratic attendance patterns.

A second major point pertains to the independent variables which are under study. The variables must be sufficiently different and sufficiently powerful to lead to different results. For example, one cannot expect two methods of studying that are only slightly different (study-skills methods tend to have more commonalities than differences) to lead to significant differences. On the other hand, there is a danger in constantly comparing each new method for studying against a simple read-reread technique.

Since generalizations from this type of study tend to be transferred to an applied setting, the procedures for training should be adequate for the task, and the goals and objectives of the instructional methods should be clearly defined. One of the essential characteristics of a good research study is that it should be replicable. By clearly specifying methods and

objectives, the chances are improved for replication and increased generalizability of findings.

Since most study-skills techniques under investigation are new to the subjects, they must receive training of a duration long enough so as to insure understanding and internalization of the technique. This is particularly important when a technique is compared to a "tried and true" method (read-reread or underlining) which a student may have been using for many years previous to the investigation. On the other hand, without long term training, an initial gain in reading may actually be based on the novelty of using a new technique. As an example, students often double their reading rate after attending the introductory session of a dynamic speed reading course. This gain, however, can be linked to a novelty effect since the increase is not likely to be maintained over time without long term training that leads to mastery of proven rate development techniques.

Instruments

The instruments utilized in measuring the effect of the tratment should be adequately described, and must be appropriate for the task. Clymer (1969) and Harris (1976) both note that the sophistication of the analysis cannot make up for the use of either poor instruments or the wrong instruments. As an example, a standardized norm-referenced test cannot be expected to measure the effectiveness of a textbook-study system because of the instrument's survey level design and its timed nature; yet, several researchers have utilized just such an instrument in their work.

Analysis of Data

In analyzing the data from an investigation, the research should employ and report the appropriate statistical techniques for the nature of the experimental design. From the data the researcher should attempt to determine the significant relationships and also to provide a logical, accurate analysis. It is not necessary for a study to lead to significantly different results to imply practical applications. Yet inferences drawn from the study should be differentiated from scientific findings. There is danger in "fishing for trends" or extended rationalizing when significance is not found between groups. This temptation is particularly great when the researcher is evaluating a method that has been personally developed or is part of an ongoing line of research.

While it is relatively easy to differentiate between a superbly-conducted study and a totally inadequate one, it is not nearly as easy to evaluate those which are only partially flawed. One method is to follow a basic set of criteria for good research with special attention being given to potential problem areas associated with a particular line of research, as in the case of college reading-study programs.

The Prospects of Future Research on College Reading Programs

The prospects of ongoing research with instructional methods and reading-study techniques used in college reading and study-skills courses and in learning skills centers is questionable if the past is any indication of the future. Over the years educators associated with college reading programs have stressed

both the development of instructional materials based on tradition or current fads and the direct interaction with pupils over formal research endeavors. Such a situation exists, in part, because of the limited background of many college reading specialists in the foundations and methods of educational research. This factor is coupled with a widespread, fundamental belief that all students, whether they are taking developmental courses or receiving learning center services, should never be denied assistance that might support their success in obtaining a college education. Hence, the traditional design of empirical research which may withhold services is often viewed as incompatible with the philosophical tenets and the inherent mission of college reading and study-skills programs. Therefore, while in practice college reading personnel may welcome the introduction of new instructional methods, they tend to disfavor the use of control groups and rigorous adherence to experimental procedures.

When research is performed, all too often the investigators conducting studies with lower-division students at community colleges, liberal arts colleges, or comprehensive universities come from prestigious universities. These researchers do not necessarily understand the educational and developmental characteristics of the population enrolled in college reading classes. While the search for new methods and strategies may utilize the latest theory, the resultant new ideas and "educational advances" can be as unwieldy and unacceptable to the intended clientele as the current systems.

Summary

Why haven't the researchers who wrote dissertations on topics such as the effectiveness of textbook-study systems undertaken further research with college reading instruction? The vast majority of doctoral candidates completing dissertations in the field of college reading either never publish again or turn to more immediately productive areas of inquiry. As pointed out by Maxwell (1964) and Gordon and Flippo (1983), the reason for this trend is not entirely clear.

How then can future research endeavors with college reading-study strategies be conducted in such a way as to bridge the gap between practice and theory, instructor and researcher? In the short run, cooperative research ventures between qualified investigators and informed practitioners must be undertaken. In the future, however, developmental educators must accept that the very existence of college reading programs is dependent upon the presentation of overt proof that programs and instructional components help students meet their educational goals. This task will require college reading personnel (1) to understand the contributing role of research, (2) to develop the skills necessary for evaluating and conducting studies, (3) to continue to conduct research upon completing the terminal degree, and (4) to seek actively the institutional support (release time, seed money, assistants, secretarial services, etc.) necessary for conducting applied research. Then, investigations may prove fruitful in the generation of data that not only advance theory

but also promote the utilization of proven instructional methods for the college reading program.

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